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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,313	11/01/2006	Paul T. Imhoff	00131-00345-US2	5816
30678 7590 05/17/2007 CONNOLLY BOVE LODGE & HUTZ LLP P.O. BOX 2207 WILMINGTON, DE 19899-2207			EXAMINER BELLAMY, TAMIKO D	
			ART UNIT 2856	PAPER NUMBER
			MAIL DATE 05/17/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/580,313	Applicant(s) IMHOFF ET AL.	
	Examiner Tamiko D. Bellamy	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-17 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-17 and 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/28/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-9, 11-17, and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Briening M. et al., "Partitioning Gas Tracer Technology for Measuring Water in Landfills", (2002) Fall Meeting of the American Geophysical Union, B51A-708.

Re claim 1, Briening M. et al. disclose measuring water within solid waste by injecting two gas tracers within the solid waste. Briening M. et al. discloses one gas is conservative (e.g., non-reactive), and the second gas tracer partitions into the water and is separated from the conservative tracer during at least a portion of the method (See article B51A-0708). While Briening M. et al. lacks the detail of the second gas tracer being selected from a group consisting of a halogenated aliphatic compound, a weak acid, a weak base, and a polar organic compound, Briening M. et al. discloses in the broad sense the use of a second tracer that partitions into water (See (See article B51A-0708). The

court held in In re Mixon, 470 F.2d 1374, 176 USPQ 296 (CCPA 1973), that a selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. Therefore, to employ Briening M. et al. on a second tracer selected from a group would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using a second tracer that partitions into water.

Re claim 2, Briening M. et al. disclose a conservative (e.g., non-reactive) tracer, and a partitioning tracer (See article B51A-0708). While Briening M. et al. discloses does not specifically discloses that the tracers comprise helium and difluoromethane, the court held in In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960), that the selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. Therefore, to employ Briening M. et al on a tracers comprising helium and difluoromethane would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using two tracers.

Re claim 3, Briening M. et al. disclose tracers that are injected and chromatographic separation of the tracers is measured between the point of the tracer injection and a point of tracer extraction (See article B51A-0708).

Re claim 4, Briening M. et al. disclose a conservative (e.g., non-reactive) tracer (See article B51A-0708). While Briening M. et al. does not specifically discloses that the conservative tracer comprises at least one noble gas or perfluorinated compound, the court held in In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960), that the selection of a known material based upon its suitability for the intended use is a design

consideration within the skill of the art. Therefore, to employ Briening M. et al on a conservation tracer comprising noble gas or perfluorinated compound would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using a conservative tracer.

Re claim 5, Briening M. et al. disclose a conservative (e.g., non-reactive) tracer (See article B51A-0708). While Briening M. et al. discloses does not specifically discloses a conservative tracer selected from the group consisting of neon, helium, argon, and perfluorinated compounds, the court held in In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960), that the selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. Therefore, to employ Briening M. et al. on a conservation tracer selected from the group of neon, helium, argon, and perfluorinated compounds would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using a conservative tracer.

Re claim 6, Briening M. et al. disclose a conservative (e.g., non-reactive) tracer. The conservative tracer has the inherent function of having a low affinity for water, and has a negligible affinity for solid waste and a gas-water phase interface.

Re claim 7, Briening M. et al. disclose a conservative (e.g., non-reactive) tracer, and a partitioning tracer. Briening M. et al. discloses that a detector (e.g., chromatograph) measuring two tracers after the tracers are injected into a material (e.g., landfill) (See article B51A-0708): While Briening M. et al. lacks the detail of the second gas tracer being selected from a group consisting of a halogenated aliphatic compound, a weak acid,

a weak base, and a polar organic compound, Briening M. et al. discloses in the broad since the use of a second tracer that partitions into water (See (See article B51A-0708). The court held in In re Mixon, 470 F.2d 1374, 176 USPQ 296 (CCPA 1973), that a selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. Therefore, to employ Briening M. et al. on a second tracer selected from a group would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using a second tracer that partitions into water.

Re claim 8, Briening M. et al. disclose a conservative (e.g., non-reactive) tracer, and a partitioning tracer (See article B51A-0708). While Briening M. et al. disclose does not specifically discloses that the tracers are nontoxic, nonbiodegradable, and detectable within the gas phase, the court held in In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960), that the selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. Therefore, to employ Briening M. et al. on tracers that are nontoxic, nonbiodegradable, and detectable within the gas phase would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using two tracers used in an and environment for biodegradation or organic wastes.

Re claim 9, Briening M. et al. disclose injecting two gas tracers into a landfill. While Briening M. et al. does not specifically disclose that the tracers are absent from the landfill gas or found in negligible concentrations within the gas phase. However, this teaching infers and/or suggests adding tracers wherein the current landfill gas does not

contain a significant amount of the applied tracers that would alter the existing conditions of the landfill gas prior to adding the tracers. Therefore, to employ Briening M. et al. on tracers that are absent from landfill gas or found at negligible concentration would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using two tracers that are injected into the landfill.

Re claim 11, Briening M. et al. disclose the partitioning tracer employed has a retardation dominated by bulk water (See article B51A-0708).

Re claims 12 and 13, Briening M. et al. disclose measuring water within solid waste by injecting two gas tracers within the solid waste/landfills. Briening M. et al. discloses one gas is conservative (e.g., non-reactive), and the second gas tracer partitions into the water and is separated from the conservative tracer during at least a portion of the method (See article B51A-0708). While Briening M. et al. does not specifically disclose that the measuring water in an engineered porous media, the court held in, In re Pearson, 494 F.2d 1399, 181 USPQ 641 (CCPA 1974); In re Yanush, 477 F.2d 958, 177 USPQ 705 (CCPA 1973); In re Finsterwalder, 436 F.2d 1028, 168 USPQ 530 (CCPA 1971); In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 136 USPQ 458 (CCPA 1963); Ex parte Masham, 2 USPQ2d 1647 (BdPatApp & Inter 1987), that a recitation with respect to the manner in which an apparatus is intended to be employed does not impose any structural limitation upon the claimed apparatus which differentiates it from a prior art reference disclosing the structural limitations of the claim. Therefore, to employ Briening M. et al. on measuring water in porous media would have been

obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches determining the amount of water in solid waste/landfills.

Re claim 14, Briening M. et al. disclose one tracer is conservative (e.g., non-reactive) within the landfills, and the second gas tracer partitions into the water (See article B51A-0708). Briening M. et al. disclose a conservative tracer, which has an inherent function of not partitioning significantly into solids/liquids. Briening M. et al. discloses a partition tracer which has the inherent function of partitioning into water in landfills, but has minimal affinity for gas-water phase interface for solid waste.). While Briening M. et al. lacks the detail of the second gas tracer being selected from a group consisting of a halogenated aliphatic compound, a weak acid, a weak base, and a polar organic compound, Briening M. et al. discloses in the broad since the use of a second tracer that partitions into water (See (See article B51A-0708). The court held in In re Mixon, 470 F.2d 1374, 176 USPQ 296 (CCPA 1973), that a selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. Therefore, to employ Briening M. et al. on a second tracer selected from a group would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using a second tracer that partitions into water.

Re claim 15, Briening M. et al. disclose a conservative (e.g., non-reactive) tracer, and a partitioning tracer (See article B51A-0708). While Briening M. et al. disclose does not specifically disclose that the tracers are nontoxic, nonbiodegradable, and not easily detectable within the gas phase, the court held in In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960), that the selection of a known material based upon its suitability for the

intended use is a design consideration within the skill of the art. Therefore, to employ Briening M. et al. on tracers that are nontoxic, nonbiodegradable, and not easily detectable within the gas phase would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using two tracers used in an and environment for biodegradation or organic wastes.

Re claim 16, Briening M. et al. disclose a conservative (e.g., non-reactive) tracer (See article B51A-0708). While Briening M. et al. discloses does not specifically discloses that the conservative tracer comprises at least one noble gas or perfluorinated compound, the court held in In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960), that the selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. Therefore, to employ Briening M. et al on a conservation tracer comprising noble gas or perfluorinated compound would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using a conservative tracer.

Re claim 17, Briening M. et al. disclose a conservative (e.g., non-reactive) tracer. The conservative tracer has the inherent function of having a low affinity for water, and has a negligible affinity for solid waste and a gas-water phase interface.

Re claim 19, Briening M. et al. discloses one gas is conservative (e.g., non-reactive), and the second gas tracer partitions into the water and is separated from the conservative tracer during at least a portion of the method (See article B51A-0708). While Briening M. et al. lacks the detail of the second gas tracer being selected from a group consisting of fluromethane, difluoromethane, and 1,1,1-trifluoroethane, Briening

M. et al. discloses in the broad sense the use of a second tracer that partitions into water (See (See article B51A-0708). The court held in In re Mixon, 470 F.2d 1374, 176 USPQ 296 (CCPA 1973), that a selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. Therefore, to employ Briening M. et al. on a second tracer selected from a group would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using a second tracer that partitions into water.

Re claim 20, Briening M. et al. discloses determining water saturation between the tracer injection and tracer extraction points (See article B51A-0708). While does not specifically discloses water saturation between 0.09 and 0.39. Briening M. et al. with use of the selected tracers as claimed and the through experimentation the desired water saturation can easily be obtained. Briening M. et al. specifically discloses that experimental conditions were selected to mimic the range of moisture conditions. Therefore, to employ Briening M. et al. on a water saturation between 0.09 and 0.39 would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches selecting experimental conditions to mimic the range of moisture conditions that may exit in the material (e.g., landfills) and determining water saturation between the tracer injection and tracer extraction points.

Re claim 21, Briening M. et al. disclose measuring water within solid waste by injecting two gas tracers within the solid waste/landfills. Briening M. et al. discloses one gas is conservative (e.g., non-reactive), and the second gas tracer partitions into the water and is separated from the conservative tracer during at least a portion of the method (See

article B51A-0708). While Briening M. et al. does not specifically disclose that the measuring water in a biofilter, the court held in, In re Pearson, 494 F.2d 1399, 181 USPQ 641 (CCPA 1974); In re Yanush, 477 F.2d 958, 177 USPQ 705 (CCPA 1973); In re Finsterwalder, 436 F.2d 1028, 168 USPQ 530 (CCPA 1971); In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 136 USPQ 458 (CCPA 1963); Ex parte Masham, 2 USPQ2d 1647 (BdPatApp & Inter 1987), that a recitation with respect to the manner in which an apparatus is intended to be employed does not impose any structural limitation upon the claimed apparatus which differentiates it from a prior art reference disclosing the structural limitations of the claim. Therefore, to employ Briening M. et al on measuring water in a biofilter would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches determining the amount of water in solid waste/landfills.

Re claim 22, Briening M. et al. disclose a conservative (e.g., non-reactive) tracer, and a partitioning tracer. Briening M. et al. discloses that a detector (e.g., chromatograph) measuring two tracers after the tracers are injected into a material (e.g., landfill) (See article B51A-0708). While Briening M. et al. lacks the detail of the second gas tracer being selected from a group consisting of a halogenated aliphatic compound, a weak acid, a weak base, and a polar organic compound, Briening M. et al. discloses in the broad since the use of a second tracer that partitions into water (See (See article B51A-0708). The court held in In re Mixon, 470 F.2d 1374, 176 USPQ 296 (CCPA 1973), that a selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. Therefore, to employ Briening M. et al. on a

second tracer selected from a group would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using a second tracer that partitions into water.

Re claim 23, Briening M. et al. discloses one gas is conservative (e.g., non-reactive), and the second gas tracer partitions into the water and is separated from the conservative tracer during at least a portion of the method (See article B51A-0708). While Briening M. et al. lacks the detail of the second gas tracer being selected from a group consisting of fluromethane, difluoromethane, and 1,1,1-trifluoroethane, Briening M. et al. discloses in the broad sense the use of a second tracer that partitions into water (See (See article B51A-0708). The court held in In re Mixon, 470 F.2d 1374, 176 USPQ 296 (CCPA 1973), that a selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. Therefore, to employ Briening M. et al. on a second tracer selected from a group would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using a second tracer that partitions into water.

Response to Arguments

2. Applicant's arguments filed 3/5/07 have been fully considered but they are not persuasive.

Re claims 1, and 7, the applicant argues that Briening M. et al. does not select a partitioning gas selected from a group consisting of a halogenated aliphatic compound, a weak acid, a weak base, and a polar organic compound. However, Briening M. et al. discloses in the broad since the use of a second tracer that partitions into water (See (See

article B51A-0708). The court held in In re Mixon, 470 F.2d 1374, 176 USPQ 296 (CCPA 1973), that a selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. Therefore, to employ Briening M. et al. on a second tracer selected from a group would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches using a second tracer that partitions into water.

3.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2856

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamiko D. Bellamy whose telephone number is (571) 272-2190. The examiner can normally be reached on Monday - Friday 7:30 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tamiko Bellamy

T.B.

May 14, 2007



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